

# **AFS-600**

## *Regulatory Support Division*

Vol. 18, No. 1

**JANUARY 2006**

A quarterly publication designed to serve the Examiner, Designee, and Instructor Community

### **IN THIS UPDATE**

ARTICLES FOR THE DESIGNEE UPDATE.....	1
EMAIL DIRECT TO YOUR COMPUTER .....	1
DPE SEMINAR PART 1 .....	2
TRY IT, YOU'LL LIKE IT: IACRA.....	3
AIRCRAFT ENGINES ARE OIL COOLED!!! .....	4
TEN WAYS TO RENEW YOUR CFI CERTIFICATE .....	6
EMERGENCY APPROACH AND LANDING (SIMULATED) .....	8
ENGINE MANAGEMENT AND SAFETY ISSUES .....	9
SIMULATED EMERGENCY APPROACH AND LANDING.....	10
STALL/SPIN AWARENESS .....	11
COCKPIT DECISION MAKING.....	12
LAZY-RUDDER SYNDROME .....	14

### **ARTICLES FOR THE DESIGNEE UPDATE**

If you would like to submit an article for the Designee Update, please send an email with the article attached as an MS word document to: [Paul.J.Maenza@faa.gov](mailto:Paul.J.Maenza@faa.gov).

### **EMAIL DIRECT TO YOUR COMPUTER**

If you would like to have the Designee Update sent directly to your email address, go to the Oklahoma City Community College website at: <http://okccc.faa.edu>, and enroll. Remember that you are responsible for keeping your email address up to date on the website.

# DPE SEMINAR PART 1

Well folks, it's here. The computer age allows us to pay our bills on line, search for valuable information and now we can even complete a part of our Designee renewal process on-line.

What you need to do is register twice on the AFS-640 website, once for Part 1 (the on-line seminar), and again for Part 2 (the face-to-face seminar).

Go to AFS-640's site below. It links to designee related interests, of which one will be the enrollment and payment process for these seminars. Be certain to read the entire page at each window to not overlook any of the required information. Make note of the addresses that each page brings you to, in case you have to return to it later.

[http://www.faa.gov/about/office\\_org/headquarters\\_offices/avs/offices/afs/afs600/](http://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afs/afs600/)

(Click first on "Designee Standardization" and then on "Search Designee Seminars" on the next page) -- you can pay on-line with your credit card.

Please disregard the DATE of Part 1. The computer needs some date. We could end everyone's confusion if the program would allow NO DATE entry, but it can't at this time. You can start and restart the seminar as you please. The only requirement is that you do it in enough time to receive the Part 1 completion certificate to present at the Part 2 seminar.

That covers the paying part. That process should take you automatically to the college site (below) in order to registration (free) to take the Seminar Part 1

At the college site (<http://faa.okccc.edu/>) you must pick a **new** and **different I.D. and password** by creating an account on the bottom of the welcome page – don't push the "Log in" button until you push the "Create account" button. After you have created your account you just log in using your new ID and password.

Take the **pretest**, do the **lesson**, and take the **post-test**. When you have completed that, you will receive e-mail in a week or two that will have a web address that you will visit to print your Part 1 completion certificate and answer survey questions about the seminar.

If you have not received your Part 1 completion certificate and the Part 2 is near, you can also go to the Welcome Page of the Seminar where you started the lesson and click on "My Records" and print the "My Grades" page and bring it to the Part 2 seminar. That way you don't have to worry if the system delays the delivery of your Part 1 Completion Certificate.

Again, if you don't get the Part 1 completion certificate before the Part 2 seminar, just go to the face-to-face seminar and get your Part 1 completion certificate afterwards; show it to your POI and you'll get your Part 2 Certificate in a similar manner. Once the Certificate Processing Department has checked to see that all the squares are checked, they will be e-mailing a web address where you may download and print the certificate. It will go to the e-mail address you provided. Their mailing schedule is on a weekly basis.

Edward J. Galasso,  
ASI-Operations/Instructor/On-line Seminar Project Manager  
AFS-640, Designee Standardization Branch  
Mike Monroney Aeronautical Center, Oklahoma City, OK  
[edward.j.galasso@faa.gov](mailto:edward.j.galasso@faa.gov)

## TRY IT, YOU'LL LIKE IT: IACRA

IACRA (Integrated Airmen Certification and/or Rating Application) is the government's online version of FAA Form 8710-1, Airman Certificate and/or Rating Application. It will not be long before the FAA will stop accepting paper versions of the form. Reportedly two FSDOs will only accept electronic versions of the forms now. You don't have to be a computer geek to be able to use this system. If I can do it, anyone can. There are some ground rules. First you need a computer that has an Internet connection and has access to Internet Explorer and Adobe Reader (both of these can be downloaded for free). With this requirement met, now you go to [www.faa.gov](http://www.faa.gov). Click on Licenses and Certificates, and under Airman Certification click on Integrated Airmen Certification and/or Rating Application (IACRA). This will lead you to the IACRA home page.

Now let's look at an overview of how the system works. First, all parties must register in IACRA as a recommending instructor, applicant, or designated examiner. To register, just click on the registration button and answer the questions. The biggest problem seems to be that people want to use their favorite password, and IACRA has some very specific password requirements. Your password must include 8 to 12 characters including numbers, letters, and characters upper and lower case. Once you have registered, this will produce an FTN number, user name, and password that you will need to keep because you will refer to it constantly. Once all parties are registered and have their FTN numbers, now it's time to use the system.

Filling out the form is the next step. The applicant logs into IACRA from the home page. He clicks on Start/Retrieve Application box, and then he answers the questions. Basically, he is now filling out the form. There are questions on the form for the applicant to answer. He must click on the appropriate answer and turn it green, then click on OK to add it to the form. One big advantage is that it will not allow the applicant to skip a box or enter less than the minimum required for the rating sought. Remember--this is a computer, garbage in equals garbage out. For example, when it asks the amount of instrument time the applicant has for a private airplane, it will not accept 2.9 hours because it doesn't meet minimums, but it will accept 30 hours because it does meet minimums. However, the applicant really meant to put 3.0 hours. Mistakes are easy to correct by either the applicant or the instructor BEFORE the instructor e-signs the application. So double check dates, times, numbers, etc.

Once the applicant has satisfied the computer requirements, it's the instructor's turn. He logs into the IACRA home page as the recommending instructor. He is able to access the applicant's form using the applicant's FTN number. It is now his responsibility to check to make sure that all the information the applicant has produced is correct (just like he is supposed to do on the paper version of the form). Once he is convinced it is the correct information, he e-signs the application. To e-sign the application, select the mouse finger, move it to the appropriate box, and click once. You must use the finger when signing the document. The hand will not work. Once the instructor has signed the form it goes to a spot in cyberspace that only an FAA-designated examiner can retrieve. Thus, it is very important to check all information prior to the instructor e-signing the form. If a mistake is found after the instructor e-signs the application, the only way to correct it is by having the applicant start all over by filling out a new application. If the examiner finds a mistake on the day of the test, he will not be able to make corrections and more than likely will not be able to administer the test at that time. So, do it right the first time. No whiteout is allowed.

Next, your friendly, designated examiner logs in and retrieves the applicant's form and just follows the step-by-step instructions. One of the first things that the examiner will do is verify the photo ID and enter the information at which time it will allow the applicant to e-sign his form. This is a change from the old way because in cyberspace the instructor signs the application first, and the applicant e-signs the application in front of the examiner. After checking the form against the applicant's logbook, the examiner logs off and administers the test. Once the test is concluded, the examiner logs on again and enters the result as pass, fail, or discontinuance. The examiner then checks the temporary and if he agrees, he e-signs the form, prints out a copy, and gives it to the applicant. All required paperwork that the examiner has to give to the FAA is now completed.

If you have any trouble, there is an 888-customer service number listed at the bottom of the home page that you can call 7 days a week. I have used this number twice and have had a real person answer within five rings each time. IACRA will be FAA mandated in the future. It is coming. Get ahead of the curve, and learn to use this new system. You will find it to be easy to use and beneficial.

Blue skies,  
William M. Clark  
Aviation Safety Counselor, DPE

## **AIRCRAFT ENGINES ARE OIL COOLED!!!**

Aircraft engines are oil cooled, and then the oil is air cooled. Sure the cylinder heads and barrels are air cooled, but the oil cools the rest of the engine. That is the pistons, cranks, cams, gears, and all internal moving parts except the valves are oil cooled.

You know what happens to your car when you climb a long hill on a hot day with the engine low on water! Why do you not think a long climb on a hot day would max out your oil temperature? This is especially true if you had less than the recommended quantity in the crankcase.

We recently had a hot weekend. Two severe clear days with the temp over 90 degrees. On Saturday I took a sightseeing flight to 4000 feet. Two big guys in a 2-33 behind one big guy in our two-place Pawnee. This was a new experience for me. There was absolutely no lift, and the density altitude was killing the tow plane at 60 mph indicated. It actually took longer to be towed to 4000 feet than it did to glide back to pattern altitude at minimum sink airspeed.

On Sunday the CallAir was used to tow several high altitude rides. Following this they had to shut down operations because of low oil pressure in the CallAir engine. (The warning light was flashing on downwind.) An investigation revealed that they had started the day with 7 quarts and after a couple of hours of towing it was down to 5 quarts. The capacity of the engine is 10 quarts of which 7 quarts are usable.

The engine had been operated only 10 hours since a cylinder was changed and the oil replaced with 50-weight mineral oil. These engines were designed and built over 50 years ago when mineral oil was all we had. The expected time between overhaul was only 600 hours. We still use mineral oil to break in new rings then switch to modern oils and expect to get 2,000 hours TBO. Continental says that with mineral oil, consumption of as much as 1 quart per hour is acceptable.

Many large engines when filled to capacity seem to consume a quart then stabilize at a lower rate of consumption. Because of this, many operators just don't put in that last quart. I understand that someone determined that the first 3 quarts went fast in the CallAir so they decided to run it at 7 quarts. I don't know who made this decision, but I have a problem with it.

Oil leaves an engine in one of three ways.

1. It gets by the rings when lubricating the pistons. This shows up as blue smoke, oily plugs, and low compression. Question? If this type of consumption is reduced, are the rings still adequately lubed?? Remember that the cylinder walls get their oil thrown at them from the rod bearings.

2. Oil leaks out of the engine. It has been said of many of these old engines, especially radials, that if it isn't leaking oil, it is out of oil. We had some pretty hard to find leaks in this CallAir engine, but they were more of a cosmetic problem and didn't account for much volume.

3. Oil is thrown out of the crankcase breather. This can be a problem, especially if the oil separator gets a plugged return line. The rod bearings throw oil in all directions in the crankcase. Some of it is thrown out of the breather. The CallAir engine has an oil tank so it is hard to figure how a small reduction in the quantity of oil would have an affect on how much oil the rods are throwing.

Capacity 10 quarts with 7 quarts useable does not mean that it will hold 10 quarts, but you are supposed to run it at 7 quarts. It means that when you get down to 2 quarts, the oil pump could start sucking air, cavitate, and quit moving oil. You may have noticed that the oil pressure limits are 30 to 60 PSI on Continental engines and 60 to 90 PSI on Lycoming. The reason for this is that Lycoming measure the pressure at the pump and Continentals measures what is left after the oil is delivered to the bearings, lifters, and rockers. When the quantity of oil gets low, each quart has more work to do cooling the engine and the oil temperature goes up. When the oil temperature goes up, the oil becomes thinner (less viscous) and more of it flows through the bearings. The pump must now move more oil and the pressure drops. Cold oil doesn't move very fast, which is the reason these engines must be kept at low RPM after starting until the oil warms up and the pressure drops.

We have low oil pressure warning lights on all our tow planes. These serve two purposes.

1. To get the pilots attention when the oil gets hot or the quantity gets low.
2. To remind him to shut off the master switch after shutting down the engine.

Power pilots are all trained to climb initially at Vy (best L/D = best rate) then switch to cruise climb (faster) ASAP for better engine cooling. When we convert an ordinary power pilot to a "Tow Pilot," we train them to climb at the glider's preferred speed. This is usually too slow for good cylinder or oil cooling. Fortunately (for the oil), these long climbs are followed by a descent where too much cylinder cooling becomes a problem. The oil gets cooled but often not enough.

When the density altitude gets high, the climbs get longer, and the returns get shorter. At some point, the oil heating and cooling no longer balance out, the oil gets too thin, and the red light comes on. The more oil there is in the engine, the longer it takes for this to occur. As the engine acquires hours since overhaul (call it wear), the oil pressure is lower at any given temperature, and the oil consumption is greater. This means that you have less time to play this heating/cooling game on a hot day.

Aircraft engines are not designed for this kind of abuse. You are expected to use full power for only a short climb. Then reduce power, and increase speed for the rest of your climb. Following that you cruise at 2/3 power for several hours at an altitude where you have to close cowl flaps to avoid overcooling the engine. This is the kind of use that the manufacturer says will produce 2,000 hours TBO. Why do we expect them to last that long the way we treat them towing gliders???

Lets say that it costs \$18,000 to overhaul a Pawnee engine, and we get 1,800 hours out of it. That's \$10 per hour for wear and tear at best. Oil costs \$3 dollars per quart. If keeping plenty of oil in the engine means that we sacrifice a quart every couple of hours, we only have to gain 20 minutes of use of that engine before overhaul to pay for it. Bill Jackson says we are being "penny wise and pound foolish."

I challenge any tow pilot to give me a reason not to start the day with a full crankcase of oil. The fact that it requires extra rags to keep the belly clean is not acceptable.

The incident mentioned at the beginning where the CallAir was run out of proper lubrication by starting at only 70 percent of oil capacity on a hot day, has probably cost us many hours of useful life on that engine.

Dave Wiley    From O'Regon    The flying no spin zone.

# TEN WAYS TO RENEW YOUR CFI CERTIFICATE

## References:

- a. 14 CFR 61.197,
- b. Any current CFI PTS,
- c. AC 61-91H,
- d. FAA Order 8700.1, appendix 3,
- e. AC 61-65D,
- f. FAA Order 8700.1 (Chg. 9), chapter 13,
- g. NAFI Master Instructor program guidance (website: [www.NAFInet.org](http://www.NAFInet.org)), and
- h. FAA Form 8710-1; page 4.

In discussions with many flight instructor candidates, we often talk about the different ways instructors can renew their CFI certificate. There are so many ways to renew it that there really is little excuse for letting it expire! Yet, in spite of the many different ways to renew, few instructors can list all of them. The regulations 14 CFR part 61, section 61.197 list some, but not all of the approved methods. (Challenge yourself now before reading further, see how many you can name!). Here now are ten ways to renew an unexpired flight instructor certificate.

**1. Take a practical test for a CFI rating currently held,** in accordance with references a. and b. Incidentally, this is the only way to reinstate an expired CFI certificate, and the reinstatement of one rating will renew all ratings listed on the old CFI certificate.

**2. Take a practical test for an additional CFI rating.**

**3. Demonstrate a first-time pass rate of at least 80 percent** based on a minimum of five recommendations for a practical test. One of the best ways to document this activity is to retain a copy of FAA Form 8710-1 for each practical test recommendation and a copy of each FAA Form 8060-4, Temporary Airman Certificate, or FAA Form 8060-5, Notice of Disapproval, that was awarded.

**4. Serve as a Check Airman,** or as an instructor in a part 121 or part 135 operation, or serve in a position involving the regular evaluation of pilots. A letter of appointment as a Check Airmen, along with the pilot logbook showing activity in this capacity should be sufficient documentation.

**5. Attend an industry-sponsored Flight Instructor Refresher Course (FIRC),** which is pronounced “ferk”. This is an excellent option for a diverse group of instructors, including those who wait until the last minute to renew. There are at least two ways to complete a FIRC:

a. **Attend a FIRC in person,** which requires some advance planning, or

b. **Complete an online FIRC,** which requires no advance planning. CFIs have the advantage of taking the training on a schedule that suits their needs. Some providers may charge only a one-time fee for this service.

**6. Attend an FAA-sponsored CFI workshop** if offered in your district. The requirements are a bit more stringent than for a FIRC (for example, it may be necessary to participate in the FAA “WINGS” program and provide a copy of the most recent “WINGS” certificate), but if the CFI does a little advanced planning, it may be possible to catch up on the latest professional updates and renew the CFI certificate at the same time. They are usually offered the same month each year where available.

**7. Participate in the FAA “WINGS” or “SEAWINGS” Program.** Many pilots are aware of this fun and versatile long-term program, and CFIs should already know that instructors could earn “WINGS” phases by

documenting student activity in accordance with reference c. What many CFIs don't know, however, is that a recent authorization, reference d., adds to the versatility of the “WINGS” program by making it possible to renew an unexpired CFI certificate as well! Here’s how it works. The CFI must:

- a. Be a participant in the “WINGS” or “SEAWINGS” program;
- b. Provide 15 hours of documented flight instruction in pursuit of “WINGS” objectives, and
- c. Sign off five eligible students for their “WINGS” phase.

**8. Earn a Gold Seal flight instructor certificate.** This is a one-time permanent qualification, and when awarded, is good for a one-time renewal of the CFI certificate. The permanent certificate even has the FAA logo in gold. Years ago, having a Gold Seal meant that the CFI held an instrument rating, but since the instrument rating is now required, the Gold Seal takes on a new meaning. To earn a Gold Seal certification, the CFI must demonstrate at least an 80 percent first-time pass rate based on a minimum of ten signoffs, not just five as in item 3 above. Moreover, the CFI must also hold either an Advanced Ground Instructor (AGI) or an Instrument Ground Instructor (IGI) certificate. The FAA wants as many CFIs as possible to earn Gold Seal. See references (e) and (f).

**9. Earn or renew a Master CFI designation.** In accordance with reference (g), the National Association of Flight Instructors (NAFI) offers the Master Instructor program. You must be a 2-year CFI and a member of NAFI to be eligible. The Master Instructor designation picks up where the Gold Seal leaves off. Unlike the Gold Seal, Master CFI credentials are granted based on a system of continuing education units (CEUs). Moreover, the designation must be renewed biennially. There are fewer than 400 Masters out of over 81,000 CFIs. Here is a summary of the Master Instructor program’s essentials. CEUs are awarded in four categories; required minimum of 32 total CEUs:

- a. Educator (16-CEU minimum)
- b. Service to the Aviation Community (2-CEU minimum)
- c. Creation of Media (2-CEU minimum)
- d. Participant (2-CEU minimum)
- e. Instructor candidates must document their qualifying activities and submit a detailed package for board review. More program details are contained in reference (g). The use of a Master CFI designation is the newest way to renew an unexpired flight instructor certificate.

**10. Obtain renewal based on “duties and responsibilities.”** In a few rare cases, an FAA inspector may opt to renew a CFI’s certificate primarily because of his or her personal familiarity with the instructor. See reference (h). A CFI using this method of renewal must first have an exceptionally close working relationship with the FAA inspector granting the renewal. There are many opportunities to develop such a relationship; your FSDO’s Safety Program Manager is an excellent starting point.

There you have it (so far)! Perhaps you have now discovered a renewal method that better suits your needs. Many of these methods are not contained in the CFRs, but are FAA-approved nonetheless. Once you realize the diversity of renewal options, the hard part merely becomes deciding *when* to renew. I renew annually because of my level of activity. 14 CFR part 61.197(b)(2) states that the original expiration month can be retained if the renewal is accomplished (e.g., FAA Form 8710.1 submitted to the FSDO) within the 3-calendar months preceding the expiration month. If renewing outside of that window, a new expiration month will be listed on the certificate.

Good luck and safe flying! Robert Jex

Robert Jex is a NAFI Master CFI, an FAA Gold Seal CFI, formerly the Safety Officer at Pan Am International Flight Academy in Fort Pierce, Florida. He was named 2004 CFI of the Year by the FAA Orlando District and now works as an Aviation Safety Inspector in that office.

## EMERGENCY APPROACH AND LANDING (SIMULATED)

*Mr. John Walkup sent the following letter to Mr. Paul Maenza. It is published as it was received.*

“Paul Maenza  
AFS-600

Dear Mr. Maenza,

This letter is being written in response to the April 2005 AFS 600 newsletter in which a letter was published, concerning descent below 1000 AGL for “Emergency approach and landing (simulated)”.

In this letter the author discusses many points that need to be taken into consideration on the process of successfully completing a landing after engine failure in a single engine airplane.

The elaboration on not going below 1000’ AGL as adequate to teach AND test for competency in a simulation of engine failure does bring up some issues that need further thought. In direct contradiction with the author I do not feel any pilot examiner or instructor could determine at 1000 AGL whether a pilot could make a successful emergency landing for an off airport landing. Using a hard surface normal runway is not relevant. Using the 180-degree power off procedure to a landing on a normal runway would improve the pilot’s ability to make a successful approach and landing off airport but the decision could not be made as to its outcome by stopping at 1000 AGL. The 180 approach is in the commercial but not the private PTS as of this writing. Our group of examiners in Arizona have written a request to have that put in the Private PTS and have not seen the fruits of that request yet. Why wait to be a commercial pilot to do the maneuver when it is needed at the Private level.

I had a recent private applicant give me a pre takeoff briefing in the run up area that included the statement “ if we have engine failure below 500 AGL I will land straight ahead, if it is above 500 AGL we will turn back to the airport and land”. I looked at him and said would you really turn back to the airport? He thankfully said “no because the airplane would not make it”. That is the short end of that discussion. Many of our “new generation instructors do not even know what “key” position is for power off approaches, as mentioned in the newsletter.

The emergency landing area is not going to be much bigger than 1 tenth of the taxi way on a 4000 foot runway. Compounded by trees, ditches, power lines, cliffs and many times automobiles. We must see the pilot be able to make this landing and utilized his skills and ability to put the airplane where they want to. As a pilot examiner we make the decision as to the credibility of the approach and the applicant should be clear as to whether they would have made it or not. You cannot do that at 1000 AGL.

I have attached a copy of a bulletin that we have circulated in our FSDO area for examiners and flight schools as a suggestion to use as a benchmark for standardization.

I appreciate the authors concern at going below 1000 AGL, but this is training and testing, and requires competency on the instructors and examiners not conservatism to the detriment of safety.

John Walkup  
DPE WP-07-07  
Chairman

**Note from AFS-630:** The next revision to the Private Pilot Airplane PTS will include the task Power-Off 180 degree Accuracy Approach and Landing.

## **ENGINE MANAGEMENT AND SAFETY ISSUES**

### **DESIGNATED PILOT EXAMINER ADVISORY GROUP WP 07**

**EXAMINER BULLETIN NO. 12**

**September 21, 2004**

**SUBJECT: ENGINE MANAGEMENT AND SAFETY ISSUES.**

Practical test applicants are often ill-informed in regard to the need for proper engine care during prolonged low-power operations, particularly power-off stalls, steep spirals, emergency approach and landing, and the power-off 180 degrees accuracy approach and landing. Many applicants don't understand the importance of clearing the engine with periodic applications of power, and they are ignorant of the proper use of carburetor heat. When reminded to turn the carburetor heat on, they then forget to turn it off when power is restored. They are unaware of how the heat can cause power loss and may even bring the engine into detonation/pre-ignition. Numerous mishaps, including a recent event in Arizona, could likely be traced to this type of engine mismanagement.

#### **Examiner actions:**

1. Brief practical test applicants that proper engine management is expected and that mismanagement may be cause for disapproval. Remind them that poor judgment regarding overcooling engines and/or failure to use the carburetor heat appropriately is abusive, dangerous, and not acceptable.
2. Examiners should verify that the applicants use carburetor heat, when appropriate, and that they must clear the engine frequently during the ensuing power-off glide. Examiners shall also ensure that the applicant turns off the heat when power is restored.
3. Since pilots trained in southern Arizona seem to be particularly weak on this subject, examiners should have some discussion with applicants regarding carburetor heat use, and its hazards, including those times when its use is inappropriate.
4. Applicants must be instructed to actually move controls, as appropriate, not just say it or touch it.

Applicants should be able to describe the cause and effect of carburetor ice and the dangers of overcooling the piston engine. They should understand dangers of engine hesitation, rough running, or even quitting when the throttle is reopened. They should understand both the safety and maintenance implications of cracked cylinders, sticking valves, and fouled spark plugs.

They must understand that these abuses cause unwarranted maintenance expense and may lead to an accident. Commercial and CFI applicants, in particular, should have a very good grasp of this subject. They should understand that while carburetor heat may be undesirable in dusty conditions and/or when ambient temperatures exceed 90 degrees, it is to be used at almost all other times for low-power operations or when ice is detected/suspected.

Applicants shall use carburetor heat whenever appropriate for low-power operations or when ice is suspected. If it is hot and dusty, the applicant should not use heat but should mention the conditions and decision to forego heat. They must turn the heat off as power is added for the go-around/missed approach so as to get full power. In addition, applicants are expected to keep the engine warm during prolonged glides. Power

should be applied at least once during every 360 degrees of turn during the steep spiral and on base during the 180 power-off approach.

CFI applicants, in particular, are expected to keep the engine warm during all of their demonstrations, including the emergency approach-and-landing demonstration.

Glenn Henderson  
DPE

<p style="text-align: center;"><b>SIMULATED EMERGENCY APPROACH AND LANDING DPE ADVISORY GROUP WP-07, NUMBER 6</b></p>
---

**DESIGNATED PILOT EXAMINER ADVISORY GROUP WP 07**

**EXAMINER BULLETIN NO. 6**

**April 25, 2003**

**SUBJECT: SIMULATED EMERGENCY APPROACH AND LANDING PROCEDURES AND SELECTION OF LANDING AREAS FOR PRIVATE, COMMERCIAL, AND CFI PRACTICAL TESTS. (AIRPLANE AND HELICOPTER)**

A preflight briefing to include the following procedures and ground rules to be used during the simulated emergency approach and landing can avoid many of the misunderstandings and potential problems associated with the testing of this maneuver.

One of the ground rules to establish involves the selection of paved highways that may contain cars or areas in the proximity to any structures as simulated forces landing areas. Regulations clearly stipulate that maneuvers should not be continued to a point where they create an undue hazard or an annoyance to persons or property on the ground. This is an issue that is particularly important in noise sensitive areas where residents have complained about low-flying aircraft. Since this maneuver will frequently result in the aircraft flying below 500 feet AGL, a simple way to eliminate this as an issue is to select an area where the maneuver is initiated so that it will provide the applicant with an adequate selection of landing sites that may include dirt roads, abandoned landing strips, or fields in relatively uncongested areas.

The landing area selected by the applicant should be indicated to the examiner. However, should it become evident during the maneuver that the selected area is unsuitable because of unseen hazards, as an example, the applicant should be allowed to change the selected point provided that it can be done safely and in a timely manner. Also, while wind direction is important in determining the direction of landing, the main objective is for the applicant to demonstrate that the maneuver can be completed to a safe landing to the best area available under the circumstances. The applicant should also understand that the use of flaps or slips in combination is acceptable if done safely and allowed by the Pilots Operating Handbook. Excessive maneuvering at very low altitudes for any reason could be considered disqualifying.

The examiner may wish to indicate to the applicant that he will require controls for carburetor heat, alternate air, fuel selectors, and magnetos to be manipulated and not just simulated as being moved. This will ensure that the proper use of these items is tested. For example, some students have not been taught to use carburetor heat properly because “we just don’t get carburetor ice in Arizona” or because some flight school maintenance departments actively discourage its use.

The examiner should indicate that he will control the throttle throughout the maneuver. In this way a clear determination of the success of the maneuver can be made and the examiner can initiate the go-around.

The appropriate and timely use of checklists should be briefed as being expected. However, if time and altitude do not permit their accomplishment, aircraft control and the success of the landing are more important. This should not be an issue if the simulated forced landing is initiated at a reasonable altitude.

An applicant should be made to understand that this maneuver has to be successfully accomplished on the first attempt.

Lew Bernstein  
Member  
DPE Advisory Group

## **STALL/SPIN AWARENESS**

Every airplane Practical Test Standard (PTS) requires the candidate demonstrate “stall/spin awareness” as part of the practical test. The Private Pilot Test also requires a forward slip to a landing. Increasingly applicants hedge on this maneuver and argue the cross-controlled configuration is “dangerously low to the ground.” This is demonstrating an obvious lack of stall/spin awareness in my opinion and further discussion is necessary, and it usually doesn’t get better. Unfortunately, this attitude and ignorance seems to be an increasing mutiny in modern flight training where we are more apt to find a programmer instead of a pilot in the left seat. A respected aviation website also put forth this opinion. This new fear of “cross-controlled flight” demonstrates a lack of basic aerodynamic theory on the part of the applicant. A private pilot candidate should know that cross-controlled flight is required to takeoff and climb coordinated. This flight configuration is more comfortable, efficient, and safer than the “flat-footed” sideways climb we often witness. Right traffic reveals even more right rudder and reverse aileron and perhaps ignorance on the part of the pilot. The real test is when a forward slip to land is requested. There doesn’t seem to be any effective training here at all. Anything that gets the controls twisted in opposition is usually called a “slip.” I once even had a CFI applicant give me a monster skid to lose altitude on final.

With my flight students, I always start them out by explaining cross-controlled can be a slip, a skid, and most often even coordinated (ball centered in any flight attitude). Often on takeoff and climb you have to almost give them permission to hold the cross-control pressure necessary to be coordinated. In the descent when the rudder is applied against the turn, (I tell my flight students to “step on the high wing”) you have a very stable slipping flight maneuver. The yaw of the rudder opposes the roll force and balances nicely in most planes. If this is brought to a stall at a safe altitude, a very benign bouncing 1,000 fpm descent results. However, if you couple the roll with “bottom rudder” in a slip, the lower wing descends resulting in reverse aileron and a cross-control known as a skid (and leading directly to a spin). In student training once the stalls are comfortable, turning stalls are very educational. When students encounter this, it could result in a spin. Here is the “teachable moment” when the nose merely falls away from the lift vector and they are confused. What causes a spin then? Try a full slipping stall...very benign. The skid will give you a spin entry every time. I wish more flight students had this training before they came for a flight test!

David St. George, MCFI, DPE (Ithaca, NY)  
david@myfbo.com

## **COCKPIT DECISION MAKING**

When we look at the accidents statistics for 2002, we find that while personal flying accounts for only 48 percent of the total U.S. flight operations, it accounts for 67 percent of the total accidents. What is going on

here? Upon closer look, we find that of those 67 percent of total accidents, pilot error is the cause of 73 percent, while 16 percent are caused by maintenance error and 11 percent are classified as other. Sounds like we might have a problem!

**The Problem:** While airplanes have gotten better and better, the standard issue “Mark 1” pilot hasn’t changed much and is now the cause of 73 percent of all accidents. If we were to further brake down the 73 percent of pilot-caused accidents, we would find that the vast majority involved poor decision-making! Even accidents where poor flying technique was involved, could have probably been prevented if better decision-making had occurred prior to the event.

**The Question:** Why is this happening? Not many people get up in the morning and say, “I think I’ll go out today, make some lousy decisions and wreck my airplane!” An even better question might be “Why do other segments of aviation have a lower percentage of accidents?” To explore that question, let’s look into three areas.

1. The “Baseline” Safe Pilot Profile
2. The Human Factors Hierarchy
3. The Decision Making Process

When I am asked to describe how I would define a “Safe Pilot”, the baseline profile I use involves three things:

**1. Procedures** are simply the way we operate (fly) the aircraft. While there are volumes written on “the proper procedures” for almost every conceivable situation, I am not as concerned with those as I am with the fact that procedures exist! A procedure exists when a pilot does the same thing the same way every time. It doesn’t have to be the way that I would do it; it just has to be consistent. The reason that this is important is that it creates “A Norm.” If you stop and think about it, you will realize that “The Normal” defines the Abnormal. That is to say, abnormal situations exist anytime normal ones are absent. If we are inconsistent in how we fly, we have no “norm;” therefore, we are not able to recognize the abnormal (the need to make or change a decision--e.g., do something)!

**2. Standards** are simply “lines in the sand” or predetermined constraints we have imposed upon us. These are limits we (or others) have imposed on ourselves to protect us from us! These may be much more restrictive than just compliance with the CFRs, **but may never be more lenient**. They are a huge advantage in Cockpit Decision-Making, because they automatically block all the worst decisions. A person without standards has no protection from making the worst possible choice in an abnormal situation!

**3. Recency of appropriate experience** is simply, how much exposure have we had to this, or a very similar, operation in the last 90 days, 6 months, year, or ever. Exposure can involve the aircraft, simulator, flight-training device, cockpit-procedures trainer, or even just mentally “thinking through” an operation. How much do I think about each flight? Do I work thorough the flight before I depart, or do I just “hop in and go”? How much do I think about the flight after it is completed? Do I “refly” it in my mind to evaluate all my actions and decisions and learn from each operation, or do I head for the car while the aircraft is still coasting to a stop and never give it another thought! We all know pilots who can remain proficient on very little flying time and others who have become very unproficient while actually flying large amounts of time.

The difference is the amount of time, or lack thereof, spent thinking about flying. The pilot who does not have recent appropriate experience will need to use much more thinking time on just flying the aircraft and will have precious little mental capability remaining for cockpit decision-making. This increases the risk involved dramatically! Not flown since last fall, and now the gusty spring winds are here? The money spent on a little dual will return huge dividends in peace of mind and lower insurance premiums.

**The Human Factors Hierarchy** has four levels of influence.

**1. Organizational (the mission background) influences** are the setting or background under which the flight is conducted. This could be the local airport group, business associates, or the company you own or work for. The effect of these influences (or culture) on the flight can be substantial. Do these background influences promote a culture of safety, or do they just give it lip service. Is there an aura of “invulnerability” (it can’t happen to me) and a “go-regardless” mentality. Are adequate resources (aircraft, training, support systems) available for this particular operation? These are the hard decisions, which need to be made before the flight even begins. Inadequacies here can begin cascading problems later in the flight, which can be difficult to overcome. The time to resolve these issues is **always** before flight.

**2. Supervision (outside constraints)** provides the “outside constraints” to prevent inappropriate (unsafe) operations. This level provides a “line of defense” in most flight operations to prevent unsafe operations or uncorrected problems. The trouble with personal flying is that this “line of defense” does not exist unless we create it. We can create it in a couple of ways. The most common way is to have a rigid set of pre-considered parameters under which we will initiate flight operations and have the self-discipline to stick to it. Doing this removes the worst choices (or problems) from the decision-making process. Another method is to have an experienced mentor, such as your flight instructor or an aviation safety counselor, who you can involve early in the decision-making (problem resolution) process. Without the constraints provided by this process, safety is considerably reduced!

**3. Preconditions (existing situation)** are the existing situation at the time the flight operation is commenced. These involve the environment (weather), equipment (aircraft), facilities (airport), mission (type of flight operation), and crew (you). It is a very important part of the decision-making process to recognize and correct abnormalities and deficiencies at this point! **Do Not drag existing problems into the upcoming flight operation!** The time to make these decisions and deal with these problems is **before** the flight. If the weather is not adequate for the proposed operation (or does not meet your operational standards), do not go! If the aircraft has operational deficiencies, get them repaired or do not go. Are the airports involved in the flight adequate for the proposed operation? Do they offer the services need to support this flight and are there any NOTAMS or TFRs involved for this route? The next decision is, given the existing weather, aircraft, and airport conditions, is this an appropriate flight operation? The last decision is me. Am I current, qualified, and proficient for the proposed operation? What is my stress and fatigue level? How is my mental, physical and emotional state? Do I have any “distracters” (major life-event issues) tying up my thinking ability or am I not feeling well. At the risk of repeating myself, do not drag major pre-existing problems into the flight regime! These only serve to set the stage for cascading failure of the decision-making process later on!

**4. Acts (the flight)** are the flight operation. Safety is compromised in this regime by the introduction of errors or violations. Violations may be exceptional (unintentional) or routine (intentional). Needless to say most of the CFRs were written with someone’s blood, so any routine violations indicate a serious lack of safety consciousness. Compliance with the CFRs is the minimum acceptable level of safety! Exceptional violations may indicate either a lack of knowledge or inattention to detail. I was recently airborne in the local BTV area and had to visually avoid another aircraft that had violated the Class C airspace unintentionally. This total lack of situational awareness is inexcusable in today’s airspace.

Errors may be perceptual, decision, or skill based. No one ever works with the real reality. We all work with our perceptions of reality, which is our working model of the real thing.

The problem is that errors in our perception of reality do not alter the real thing. The closer our perception of reality (situational awareness) is to the real thing, the easier and more accurate our decisions become! One of the defining traits of “an accident going somewhere to happen” is a pilot with a very inaccurate perception of reality!

Skill-based errors are contained by proper training and currency. To a limited extent, weak skills can be compensated for by good decisions and excellent skills will overcome some weak decisions. We all know some

marginally skilled pilots who have safely operated for years by making good decisions and we can all think of some excellently skilled pilots who have come to grief by making poor decisions.

Decision-based errors are usually the ones that get us into trouble. A series of bad decisions can overwhelm any skill level, as each bad decision exponentially raises the difficulty level.

Good decisions made prior to flight eliminate problems and vice versa.

The ending thought is: Wisdom is knowing the future consequences of present actions!

So remember, think right to FliRite!

Hobart C. "Hobie" Tomlinson  
Director of Safety  
Heritage Flight  
Burlington, Vermont (KBTV)  
DPE/E15-127 / PWM FSDO

[HobieTW@att.net](mailto:HobieTW@att.net)  
[HobieT@FlyHeritage.com](mailto:HobieT@FlyHeritage.com)  
(802) 863-3626 – Work  
(802) 363-3411 – Cell

## LAZY-RUDDER SYNDROME

From time to time there is talk among those in the flight training arena about the merits of reinstating the requirement for spin training at all levels of pilot training and certification, as it existed several decades ago. The issue asks a simple question -- "Would spin training for private and commercial pilot applicants have any tangible benefit in terms of improving overall safety"?

Earning my private pilot certificate in 1947, commercial pilot certificate in 1948, and as a young flight instructor in the early 1950s, I have experienced my share of spins. Has this experience in itself made me more capable or safer pilot -- probably not?

Accidental spins usually occur at low altitudes when doing such things as making the turn from base to final or buzzing someone's house. Under these or similar conditions a recovery is highly unlikely, even if one had previously undergone spin training. Pilots who have had spin training know how to recover from them, but at low altitudes they don't have the room needed to apply what they've learned.

Prevention is the key to avoiding these situations. Almost without exception, improper use of the rudder is the primary contributor to an accident spin. What can be done to decrease the chance of an accident spin? Perhaps returning to the "basics" would be appropriate. This falls directly in the lap of the flight instructor. Before the flight instructor can be an effective teacher to address this issue, he must fully understand the role the rudder plays in the scenario.

During the 48 years this writer has served as a designated pilot examiner(DPE), it has become apparent that many (if not most) contemporary pilots suffer, at least to some extent, from what I call "Lazy-Rudder Syndrome." In other words, they simply don't use appropriate rudder response when required. Rather, they attempt to "drive" the airplane with inputs from the yoke with little, if any, rudder input.

Why is this? In my view the root cause lies primarily with the tricycle-landing gear and yoke control. Many years ago training-type airplanes had what was then called a "conventional" landing gear. In other words, the airplane had a tailwheel. Initially, just learning to taxi one of these "tail draggers" was a challenge in itself.

With time the student soon got the hang of it and the required rudder inputs to make the airplane go where he or she wanted it to go. This resulted in a conditioning of the student's reflexes. This conditioning became so well ingrained that at the first hint of any directional deviation, on the ground or in the air, immediate and

appropriate rudder response was initiated without conscious effort. This development simply doesn't happen to the same degree when learning to fly in a tricycle-gear airplane.

The inherent tendency for contemporary pilots to suffer from lazy-rudder syndrome is reflected in the CFR 61.31(i)(1), which reads part: "No person may act as pilot in command of a tailwheel airplane unless that person has received and logged flight training from an authorized instructor who found the person proficient in the operation of a tail wheel airplane."

Although this requirement is grandfathered for a person who has logged pilot-in-command time in a tail-wheel airplane before April 15, 1991, the inference is clear for all pilots.

It has been reported by some flight instructors in both tail-wheel and tricycle-gear airplanes that, even though the rudder response was adequate when operating a tail-wheel airplane, any conditioning derived thereof was soon forgotten when flying the more traditional and forgiving tricycle-landing gear airplanes. In cases it would appear the conditioning process had not been sufficiently developed to come into play, regardless of the type of airplane being flown.

In addition to a tail-wheel, airplane used for flight training during earlier years had a "stick," as opposed to a yoke or "wheel." When driving an automobile, one subconsciously turns the wheel in the opposite direction when the vehicle starts to drift to one side of the road or the other. This also is conditioned reflex. Unfortunately, this conditioning carries over to airplanes equipped with a yoke control. A stick, unlike a yoke, provided little similarity to an automobile's steering wheel and a pilot trained in a stick-airplane was less likely to attempt to "drive" the airplane.

Aircraft designs of the 1930s, 1940s, and early 1950s were generally not as aerodynamically "forgiving" as current designs, and using the ailerons during a stall recovery was a no no. With these aircraft, attempting to pick up a wing or maintain directional control during a stall recovery with ailerons was cause for failure of a flight test. The flight-training manuals and Flight Test Guides of that time emphasized; **"Only the rudder is to be used to maintain directional control during stall recoveries."**

Quoting from the Civil Aeronautics Administration Bulletin No. 32, June 1943, "Fundamentals of Elementary Flight Maneuvers" (Yes, I still have those old manuals), it was emphasized: **"The wings are to be held level without the use of ailerons."**

These mandates should be recognized and given heed by contemporary pilots restoring and flying these grand old vintage birds.

Why did this bulletin and other training manuals stress using the rudder to keep the wings level? To spin, an airplane must first be in a stalled configuration and, while in that configuration, **"allowed"** to rotate. If the airplane is prevented from rotating it cannot spin. It is the rudder that is the key to preventing rotation.

Aircraft that initially come onto the market following World War II were primarily designs that existed before the conflict. Eventually some of these aircraft, along with entirely new aircraft designs, were given various aerodynamic enhancements that came into play when approaching and during a stall. Of particular note were differential aileron travel and wing-washout.

As any CFI knows, differential aileron travel provides that the down-aileron deflects into the slipstream to a lesser degree than the up-aileron, thereby, minimizing adverse yaw. Adverse yaw can have a villainous impact on various aspects of controlled flight.

Differential ailerons travel is not restricted to only training aircraft. For example, the Citation II provides for differential aileron travel by the up-aileron extending 19 degrees, while the down-aileron extends only 15 degrees. This may not seem like much, but it results in a decrease in adverse yaw that has a direct impact on required rudder response.

Frise-type ailerons can also address adverse yaw. Although perhaps not common on typical training type airplanes, the Frise-type aileron provides for the structure's leading edge to project into the airflow, thereby,

increasing drag. Unlike a conventional aileron design, the increased drag contributes to a decrease in adverse yaw. In addition, the “slot” afforded by this design makes the aileron more effective at high angles of attack by disciplining the airflow over the structure’s surface. However, despite this feature some rudder is still needed whenever ailerons are applied.

Wing-washout provides for a decreased angle of incidence from wing root to wingtip. Thus, at the onset of a stall, the stall occurs at the wing root and progressively moves outwardly toward the wingtip. This results in increased aileron effectiveness during slow flight and, to some degree, during stall.

With embellishments of this nature applied to a wing’s platform it has now become acceptable practice, according to the FAA’s current Flight Training Handbook, to use aileron inputs during a stall recovery. However, it gives this caution: It is important that the rudder be used properly during both the entry and recovery from a stall to counteract any tendency of the airplane to slip or yaw, the latter being a prelude to a spin.

Talking about the proper use of ailerons and rudder means little if pilots do not acknowledge their interaction in flight. Having conducted pilot certification flight tests for over four decades as a DPE, it has become abundantly clear that many contemporary pilots don’t fully comply with the FAA’s intent in the use of ailerons during a stall recovery. In many cases, the rudder pedals appear to serve only as foot rests. Or simply put, the pilot suffers from lazy-rudder syndrome.

How can flight instructors address lazy-rudder syndrome when training pilots, including those who may have learned to fly a tail-dragger but have since fallen victim to lazy-rudder syndrome? Recognizing that the condition exists is a good place to begin. Lest it be thought this applies only to the student or private pilots, rest assured it applies to all levels of pilot certification and experience, including the flight instructor.

What then can be done to address lazy-rudder syndrome? There are several excellent training exercises that can contribute to strengthen one’s basic stick-and-rudder skills.

When taxiing the aircraft, keep one’s hands off the yoke, unless wind and surface conditions suggest otherwise. This reinforces the pilot’s subconscious that the rudder is the major contributor to the airplane’s “direction” (yaw), not the yoke. It is not uncommon to see an applicant for a pilot certificate turn the yoke in the desired direction when taxiing the airplane. Almost assuredly, this tendency will be demonstrated in flight as well.

From time to time the instructor should have their students completely remove their hand(s) from the yoke during a climb, as well as in straight-and-level flight, using only soft applications of the rudder to maintain directional control. If a wing drops slightly, as it will likely do at some point, smoothly applying opposite rudder pressure in a timely manner (human yaw damper) will return the wings to level flight. It can be expected the student will initially display difficulty when in flight to completely remove his/her hands from the yoke. This is not unusual and is a subtle reminder of the presence of lazy-rudder syndrome.

It is also important that the aircraft be in proper trim, particularly in its’ roll axis. Because many training-type airplanes do not have in-flight capability to adjust roll-trim, trail and error adjustments of the aileron’s manual trim tab (if provided) may be required to achieve the desired results.

These exercises cannot only have a positive impact on developing one’s rudder reflexes; it can also have a more subtle value as well. When conducting an Instrument or ATP flight test, I have observed that when the applicant attempts to change a radio frequency, review a chart, etc., the aircraft will pitch up/down or drop a wing due to unintended control inputs. If a pilot simply removes one’s hands from the yoke, and with a little timely assistance from the rudder to maintain directional control while attending to these needs, the aircraft will remain straight and level remarkably well. When I offer this suggestion to an applicant during a flight examination, the reaction is often one of, “If removing one’s hands from the yoke an immediate loss of control will occur.” Needless to say, it will not.

Another skill that seems to have lost some importance over the years is one of coordination. Proper coordination of the flight controls is often viewed as a mark of a proficient pilot. As a young lad determined to fly airplanes for a living when I grew up, proper coordination became one of my top priorities. The rudder certainly plays an important roll in coordination flight controls.

An excellent training exercise for the development of coordination skills is a maneuver called “turning about a point.” In straight-and-level flight, a point picked on the horizon. The aircraft is then rolled into a turn, and after turning perhaps 15 degrees or so, the turn is reversed. This is carried to the same degree on the other side of the point, and so on. This is an excellent maneuver to develop coordination skills and can be extended into a climb where the torque affect must be recognized and dealt with to achieve coordinated flight.

Of the repertory of aerial maneuvers, evidence that a pilot suffers from lazy-rudder syndrome is perhaps greatest during the initial lift-off and during the approach-and-landing exercise, particularly when dealing with gusty crosswind conditions. On rotation, to correct for yaw generated by torque (P-factor if you prefer), the pilot is likely to react solely with an input from the yoke. During approach and landing as turbulence induce yaw rocks the aircraft from side to side, invariably the applicant will attempt to counter these motions with yoke inputs, with nary a budge of the rudder. This not only doesn't get the job done, it exacerbates the very thing the pilot is attempting to counter.

I recall when conducting a Private Pilot test on final approach the applicant was experiencing some difficulty by attempting to deal with yawing motions induced by light turbulence solely with inputs with the yoke. Noting he was tiring, I asked if he minded if I, “take it around once.” On final approach, I dealt with the same yawing motions the applicant had experienced, but with appropriate rudder response. The comment by the applicant is one I shall never forget. “The wind died down for you.” In other words, he was inflicting much of the so-called turbulence upon himself with inappropriate responses form the yoke.

One may get away with poor coordination and improper rudder response during routine flight operations, but when dealing with a gusty crosswind landing, such indifference is often a prelude to an incident, if not an accident. For example, when negotiating a crosswind landing and the longitudinal axis of the airplane is suddenly yawed askew, responding with only an input from the yoke not only increases the yawing motion momentarily, it raises the wing and there goes any required crosswind correction. Simply stated, the rudder is used to maintain the longitudinal axis of the aircraft aligned with the runway centerline, and the ailerons are used to lower the wing sufficiently into the wind to affect a sideslip and thereby, offset wind drift. Sounds simple enough, doesn't it? If the rudder and ailerons are used properly, it is.

The contribution the runway's white-centerline can provide is often overlooked. One should strive, both on takeoff and landing, to straddle the centerline if one is available. When landing, the centerline provides an immediate point of reference to show if proper drift correction is applied, as well as an aid for longitudinal alignment of the airplane. Similarly, it is an excellent aid to maintain directional control when taking off.

As a fledging aviator I recall a crusty old CAA inspector (Civil Aeronautics Administration in those days) telling a story of giving an aspiring airline pilot a flight check. According to the inspector, the pilot would touch down on one side of the runway and the next time on the other side when landing. The inspector, displaying a degree of wit, addressed the situation by simply saying, “Son, you can land anywhere on this runway you wish. But remember, the centerline is reserved for captains and potential captains.” That is a good thought to keep in mind, whether captain of a light single-engine airplane or captain of a large multiengine airplane.

When faced with these conditions, pilots must discipline themselves to adhere to the fundamental principals that apply -- “Use the rudder to maintain alignment of the airplanes longitudinal axis with the runway centerline while concurrently maintaining any required wing-low adjustment to counter for wind drift.” Unlike turbulent air conditions where coordinated control inputs are the norm, in crosswind conditions the feet and the hands may appear to operate independently, if not counter to each other. This is as it should be.

This becomes particularly critical during the flair and initial contact with the runway. If directional alignment and drift corrections are not maintained, the aircraft will touchdown in a crabbed attitude, not unlike

that of an automobile sliding sideways on icy pavement onto dry pavement. When this occurs, a landing incident---or perhaps even worse---an accident is highly probable.

Admitting to one's self that one's stick and rudder skills have deteriorated, or perhaps, have not been fully developed, may not be easy to accept. This can be particularly difficult for the flight instructor with whom the responsibility lies for training of proficient and safe pilots.

However, recognizing the need for improvement of one's stick-and-rudder skills can be the first step to becoming a more proficient pilot, as well a safer pilot. Performing and teaching properly executed maneuvers on the part of the flight instructor are indicative of not only professionalism, it becomes the mold that determines the quality of the product the instructor produces.

Do you suffer from lazy-rudder syndrome?

Myron W Collier  
DPE 03-EA-64  
[mwcgb@adelphia.net](mailto:mwcgb@adelphia.net)  
724-941-4521

**Editor's Note:** The leading cause factor for incidents and accidents in airplanes is lazy-rudder syndrome. The FAA calls this "Improper use of flight controls and brakes on the ground." This is when a pilot cannot keep the airplane on the runway after landing.